

WHAT IS CLAIMED IS:

1. A radio communication system in which radio communication is performed between a base station and a mobile station, said base station comprising:
  - first transmitting means for transmitting a radio signal to the mobile station;
  - first receiving means for receiving a radio signal from the mobile station; and
  - first control means for controlling the first transmitting means and the first receiving means to achieve high-speed communication between the base station and the mobile station by using at least two basic-frequency channels, when the mobile station exists in a specific area within a cell to which a basic-frequency channel is assigned, the basic-frequency channel comprising a multi-carrier OFDM signal; andsaid mobile station comprising:
  - second transmitting means for transmitting a radio signal to the base station;
  - second receiving means for receiving a radio signal from the base station; and
  - second control means for controlling the second transmitting means and the second receiving means to achieve high-speed communication between the base station and the mobile station by using at least two basic-frequency channels, when the mobile station exists in the specific area.
2. The system according to claim 1, wherein the base station and/or the mobile station determine whether the mobile station exists in the specific area, from the received signal.
3. The system according to claim 1, wherein the high-speed communication

is achieved through one OFDM frequency channel composed of the basic-frequency channels and sub-carrier channels provided among the basic-frequency channels.

4. A base station for use in a radio communication system in which radio communication is performed between the base station and a mobile station, said base station comprising:

transmitting means for transmitting a radio signal to the mobile station;

receiving means for receiving a radio signal from the mobile station; and

control means for controlling the transmitting means and the receiving means to achieve high-speed communication between the base station and the mobile station by using at least two basic-frequency channels, when the mobile station exists in a specific area within a cell to which a basic-frequency channel is assigned, the basic-frequency channel comprising a multi-carrier OFDM signal.

5. The base station according to claim 4, wherein the control means determines whether the mobile station exists in the specific area, from the signal the receiving means has received from the mobile station.

6. The base station according to claim 4, wherein the high-speed communication is achieved through one OFDM frequency channel composed of the basic-frequency channels and sub-carrier channels provided among the basic-frequency channels.

7. A mobile station for use in a radio communication system in which radio communication is performed between a base station and the mobile station, said

mobile station comprising:

transmitting means for transmitting a radio signal to the base station;

receiving means for receiving a radio signal from the base station; and

control means for controlling the transmitting means and the receiving means to achieve high-speed communication between the base station and the mobile station by using at least two basic-frequency channels, when the mobile station exists in a specific area within a cell to which a basic-frequency channel is assigned, the basic-frequency channel comprising a multi-carrier OFDM signal.

8. The mobile station according to claim 7, wherein the control means determines whether the mobile station exists in the specific area, from the signal the receiving means has received from the base station.

9. The mobile station according to claim 7, wherein the high-speed communication is achieved through one OFDM frequency channel composed of the basic-frequency channels and sub-carrier channels provided among the basic-frequency channels.

10. A radio communication system in which radio communication is performed between a base station and a mobile station, said system comprising:

a plurality of first-type cells to which one of a plurality of basic-frequency channel is assigned respectively, each channel comprising a multi-carrier OFDM signal; and

a plurality of second-type cells, each provided in one first-type cell, to which

the basic-frequency channels are assigned to achieve high-speed communication between the base station and the mobile station.

11. The radio communication system according to claim 10, wherein the high-speed communication is achieved through one OFDM frequency channel composed of the basic-frequency channels and sub-carrier channels provided among the basic-frequency channels.

12. A method of performing radio communication between a base station and a mobile station, said method comprising the steps of:

performing radio communication between the base station and the mobile station through a basic-frequency channel assigned to each cell, the basic-frequency channel comprising a multi-carrier OFDM signal; and

performing high-speed communication between the base station and the mobile station, through the basic-frequency channels when the mobile station exists in a specific area within the cell.

13. The method according to claim 12, further comprises the step of:

determining whether the mobile station exists in the specific area, from the signals the base station and/or mobile station have received.

14. The method according to claim 12, wherein the high-speed communication is achieved through one OFDM frequency channel composed of the basic-frequency channels and sub-carrier channels provided among the basic-frequency channels.